

5 (2)

AUTHORS:

Markovskiy, I. Ya., ~~Kaputovskaya, G. V.~~, SOV/78-4-8-3/43
Kondrashev, Yu. D.

TITLE:

On the Problem of the Existence of a Magnesium Boride of the
Composition Mg_3B_2 (K voprosu o sushchestvovanii borida magniya
sostava Mg_3B_2)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 8,
pp 1710 - 1714 (USSR)

ABSTRACT:

In his classical paper on boron H. Moissan pointed to the fact
(Ref 1) that boron forms several compounds with magnesium, --
among them one with the formula Mg_3B_2 . This opinion is maintain-
ed also in the papers of other research workers (Refs 2-5). In
earlier papers of the authors (Refs 6,7) simultaneously with
American scientists (Refs 8,9), however, no such compound
 Mg_3B_2 was found. Table 1 shows the new experimental results.

Figure 1 shows the formation of tetraborane in dependence on
the composition of the sinter. The yield in tetraborane in-
creases with the magnesium content of the sinter. By means of
infrared spectroscopy it was found that tetraborane is formed

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On the Problem of the Existence of a Magnesium
Boride of the Composition Mg_3B_2

SOV/78-4-8-3/43

as final product in the hydrolysis of MgB_2 . Table 3 shows the interplanar spacings for the various compounds of magnesium with boron. It may be seen from it that magnesium boride with the formula Mg_3B_2 does not exist. There are 1 figure, 3 tables, and 14 references, 7 of which are Soviet.

ASSOCIATION: Gosudarstvennyy institut prikladnoy khimii (State Institute of Applied Chemistry)

SUBMITTED: October 11, 1957

Card 2/2

MARKOVSKIY, L.Ya.; KAPUTOVSKAYA, G.V.

Chemical stability and hydrolytic decomposition of diborides of
some transition metals in their reactions with acids. Zhur.
prikl.khim. 33 no.3:569-577 Mr '60. (MIRA 13:6)
(Borides)

30153
S/080/62/035/004/002/022
D204/D301

11.222/
AUTHORS: Markovskiy, L. Ya. and Kaputovskaya, G. V.

TITLE: Certain chemical properties of Mg borides and their role in preparing elemental B by a magnesiothermal method

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 4, 1962, 723-729

TEXT: The interactions of Mg borides with aerial O_2 , N_2 and C were studied. Preparation and analysis of the borides and of amorphous B, which was also tested for oxidation resistance, are briefly mentioned. 1-g-samples of the powdered materials (99-100% $<10\mu$) were pressed into quartz tubes open at one end (15 mm dia.) and were oxidized in a slow current of air between 400 - 600°C, for 0 - 15 hours. It was found that oxidation resistance decreased in the order $MgB_{12} > MgB_6 > MgB_4$, the higher borides being unaffected up to 550 - 575°C. Short-period oxidation (15 min.) at 500 - 600°C, followed by extraction with 1:1 HCl showed that Mg was attacked in

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Certain chemical properties ...

preference to B, owing to a deficiency of surface B_2O_3 which prevented the formation of a protective oxide layer. Absence of the latter tended to reduce the long term (15 hrs) stability of MgB_{12} and MgB_6 towards oxidation, in comparison with MgB_2 and Mg_2B_3 which oxidized more rapidly at first. No Mg nitrides were formed. Resistance to O-free N_2 was studied over 2 - 3 hours between 600 - 1350°C and was found to be high, especially for the higher borides. No interaction with graphite was detected up to 1800°C. A discussion is next given of the magnesiothermal production of amorphous B, showing that 'Moissan's boron' consists of MgB_{12} containing 20% of B and B suboxides, probably as a solid solution. This is followed by consideration of the role of MgB_{12} in purifying B by vacuo-thermal and selective oxidation methods. The help of Yu. D. Kondrashev with the X-ray work is acknowledged. There are 6 figures, 4 tables and 15 references: 11 Soviet-bloc and 4 non-Soviet-bloc. The references to the English-language publications read as follows: M. Jones,

Card 2/3

PAVLYUCHENKO, M.M.; KAPUTSKIY, P.N.

Kinetics of formation of cadmium ammonium iodide. Uch.zap. BGU
no.29:87-94 '56. (MIRA 11:11)
(Cadmium ammonium iodides) (Chemical reaction, Rate of)

YERMOLENKO, I.N.; PAVLYUCHENKO, M.M.; KAPUTSKIY, P.N.

Diagram of the oxidation of cellulose by nitrogen oxides.
Dokl. AN BSSR 2 no.11:461-464 D '58. (MIRA 12:8)

1. Predstavleno akademikom AN BSSR N.F. Yermolenko.
(CELLULOSE) (NITROGEN OXIDE) (OXIDATION)

KAPUTSKIY, F. N.

PHASE I BOOK EXPLOITATION

SOV/984

International symposium on macromolecular chemistry. Moscow, 1960.

Mashinostroyeniye simpozium po makromolekulyarnoy khimii SSSR, Moskva, 11-18 iyunya 1960 g.; doinidy i svopereferaty. Sektsiya III. (International Symposium on Macromolecular Chemistry Held in Moscow, June 11-18, 1960; Papers and Summaries) Section III. [Moscow, Izd-vo AN SSSR, 1960] 469 p. 55,000 copies printed.

Tech. Ed.: P. S. Kuzhina.

Sponsoring Agency: The International Union of Pure and Applied Chemistry. Commission on Macromolecular Chemistry.

PURPOSE: This book is intended for chemists interested in polymerization reactions and the synthesis of high molecular compounds.

COVERAGE: This is Section III of a multivolume work containing papers on macromolecular chemistry. The articles in general deal with the kinetics of polymerization reactions, the synthesis of special-purpose polymers, e.g., those of cat-charge resins, semiconductor materials, etc., and chemical analyzing polymerization reactions, properties, and chemical interactions of high molecular materials, and the effects of various factors on polymerization and the degradation of high molecular compounds. No personalities are mentioned. References given follow the articles.

Baranov, Kh. V., U. M. Musayev, and R. Z. Tilyayev (USSR). The Radiation Method of Copolymerizing Acrylonitrile With Polystyrene and Perchlorovinyl	170
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YERMOLENKO, I.N.; KAPUTSKIY, F.N.

Use of nitrogen oxides in the synthesis of modified cellulose.
Vysokom. soed. 2 no.4:626 Ap '60. (MIRA 13:11)
(Cellulose) (Nitrogen oxide)

YERMOLENKO, I.N.; KAPUTSKIY, F.N.; PAVLYUCHENKO, M.M.

Effect of the moisture content and the composition of the oxidant on the oxidation of cellulose by nitrogen oxides. Dokl. AN BSSR 4 no.10: 417-420 '60. (MIRA 13:9)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.
(Nitrogen oxides) (Oxidation)

PAVLYUCHENKO, M.M.; YERMOLENKO, I.N.; KAPUTSKIY, F.N.

Mechanism of the oxidation of cellulose by nitrogen dioxide. Zhur.
prikl. khim. 33 no.6:1385-1391 Je '60. (MIRA 13:8)
(Nitrogen oxide) (Cellulose)
(Oxidation)

KAPUTSKIY, F.N.; PAVLYUCHENKO, M.M.; YERMOLENKO, I.N.

Effect of nitrogen trioxide, moisture, and phosphoric acid
on the reaction of cellulose with nitrogen peroxide. Vysokom.
soed. 4 no.4:503-509 Ap '62. (MIRA 15:5)

1. Institut obshchey i neorganicheskoy khimii AN BSSR.
(Cellulose) (Nitrogen oxides) (Phosphoric acid)

KAPUTSKIY, F.N.; PAVLYUCHENKO, M.M.; YERMOLENKO, I.N.

Effect of the nature of solvent on the reaction of cellulose
with nitrogen dioxide. Vysokom.soed. 5 no.1:75-78 Ja '63.
(MIRA 16:1)

1. Belorusskiy gosudarstvennyy universitet im. V.I.Lenina i
Institut obshchey i neorganicheskoy khimii AN Belorusskoy SSR.
(Cellulose) (Nitrogen oxide) (Solvents)

KLYAVZONIK, I.Z.; PRISTUPA, Ch.V.; KAPUTSKIY, F.N.; YEREMENKO, I.N.
[Ermolenko, I.N.]

Experimental study of carbocymethylcellulose. Vestsi AN
BSSR. Ser. biial. nav. no.1:133-134 '64. (MIRA 17:6)

REZNIKOV, M.Ya. [Reznikau, M.IA.]; KAPUTSKIY, F.N. [Kaputski, F.M.];
YERMOLENKO, I.N. [Iarmolenka, I.M.]

Electric conductivity and the degree of swelling of oxidized
cellulose salts. Vestsi AN BSSR. Ser. fiz.-tekh. nav.
no.3.39-45 '62. (MIRA 18:3)

-L 40006-66- EWT(j)/EWT(m)/T- RM/WW/JWD

ACC NR: AP6008277

SOURCE CODE: UR/0080/66/039/002/0458/0460

AUTHOR: Yermolenko, I. N.; Gusev, S. S.; Kaputskiy, F. N.; Vasilenko, Z. I.

ORG: none

TITLE: Infrared spectra of partially substituted nitroesters of polyanhydrouranic acid

SOURCE: Zhurnal prikladnoy khimii, v. 39, no. 2, 1966, 458-460

TOPIC TAGS: IR spectroscopy, cellulose, esterification, absorption spectrum

ABSTRACT: The use of spectral methods to determine the position of substitutes in cellulose derivatives was studied. For the experiments, purified cotton cellulose and monocarboxyl cellulose containing 4.7 and 7% COOH groups were used. The nitro groups were introduced at 20° with concentrated H₂SO₄ and HNO₃ in the ratio 3:1, and with H₂SO₄+HNO₃ diluted with H₂O in the ratio 38:32:30. Spectra were taken in the 400-3600 cm⁻¹ region. Infrared spectra of cellulose after esterification with diluted nitration mixture have weak bands at 900, 1630 (NO₂) and 1725 (CO)cm⁻¹; this indicates slight accumulation of nitro groups in cellulose. Accumulation of NO₂ groups in monocarboxylic cellulose containing 4.7 and 7% COOH groups is less than in nitrated cellulose, which indicates that in the reaction with HNO₃, cellulose is more active than monocarboxylic cellulose. Esterification of cellulose with concentrated nitration

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UDC: 543.422+661.728.

L 40006-66

ACC NR: AP6008277

2
mixture changes the character of the absorption spectrum: characteristic bands for the high substituted esters of cellulose appear in the 685, 782, 860 cm^{-1} regions. This change signals the transformation of cellulose into nitrocellulose. Orig. art. has: 2 figures.

SUB CODE: 07/

SUBM DATE: 22Apr64/

ORIG REF: 007

Card 2/2

MAGNITSKIY, Konstantin Pavlovich. Prinimali uchastiye: GOSUDAREVA, A.G.; PANITKIN, V.A.; BELYAKOVA, N.G.; KAPUSTYANSKIY, A.N.; ZHUKOV, S.N.; NIKULINA, F.F.; BALABANOV, B.G.; VISHNYAKOVA, Ye., red.; KUZNETSOVA, A., tekhn. red.

[Control of the nutrition of field and vegetable crops] Kontrol' pitaniia polevykh i ovoshchnykh kul'tur. Moskva, Mosk. rabochii, 1964. 302 p. (MIRA 17:2)

1. Nauchnyye sotrudniki laboratorii kaliya Nauchnogo instituta po udobreniyam i insektofungitsidam (for Gosudareva, Panitkin, Belyakova, Kapustyanskiy, Zhukov, Nikulina, Balabanov).

KAPUVARI, A.

The five-row grape cultivator is well-proven. p. 14.
UJITOK LAPJA, Budapest, Vol. 7, no. 15, Aug. 1955.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4, no. 10, Oct. 1955,
Uncl.

KAPUVARI, Jeno

Use of plastics in the construction industry. Epites szemle
6 no.6:189-192 '62.

1. Epitesgazdasagi es Szervezesi Intezet tudomanyos munkatarsa.

KAPUY, E.; CSAVISZKY, P.

B. Kockel's Representation Theory Treatment of Simple Mechanical Wave Problems;
a book review. In German. p. 347. Vol. 6, No. 2 1956. ACTA PHYSICA. Budapest
Hungary.

SOURCE: East European List, (EEAL) Library of Congress Vol. 6, No. 1
January, 1956

HUNGARY/Atomic and Molecular Physics - Physics of the Molecule. D

Abs Jour : Ref Zhur Fizika, No 4, 1960, 8276

Author : Kapuy, E.

Inst : Hungarian Academy of Sciences, Budapest, Hungary

Title : Application of One-Center Wave Functions to Tetrahedral Symmetric Hydrid Molecules. II. Numerical Computations for Methane

Orig Pub : Acta phys. Acad. scient. hung., 1959, 9, No 4, 445-459

Abstract : To calculate certain physical constants of the molecule CH_4 , a one-center function of two types is used. By the one-center method of molecular orbits, the wave function was constructed for the ground state of CH_4 from Slater 1s-, 2s-, and 2p-functions with varied parameters. Satisfactory results were obtained for the energy, coupling length, and frequency of completely symmetrical

Card 1/2

HUNGARY/Atomic and Molecular Physics - Physics of the Molecule. D
 APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000720520009-6"

Abs Jour : Ref Zhur Fizika, No 4, 1960, 8276

oscillation and ionization potential. The method does not give a correct value of the binding energy. The one-center method of valence structure in the method of spherically-symmetrical density, gave results similar to the one-center molecular orbit method. -- Ye.A. Pshenichnov

Card 2/2

KAPUY, E.

"Application of one-center wave functions to tetrahedral symmetric hydride molecules. I. Theoretical basis of the method." In English. p. 317.

ACTA PHYSICA. (Magyar Tudományos Akadémia). Budapest, Hungary, Vol. 9, No. 3, 1959.

Monthly list of East European Accessions (EEAI), LC, Vol. 8, No. 8, August 1959.
Uncla.

Diamagnetic susceptibility of perturbed systems. E. Kappay (Hung. Acad. Sci., Budapest). *Acta Phys. Acad. Sci. Hung.* 9, 475-7 (1959) (in English).—The $1s$ state of HeH^{++} may be considered as the simplest model of a perturbed system. The diamagnetic susceptibility can be calculated by a variational method by using the exact eigenfunctions of Bates and Carson (*C.A.* 50, 12630c). The results are tabulated as a function of internuclear distance as a sum of a Langevin term and a high-frequency term. For zero distance, the value agrees with that for Li^{++} .

Paul Becker

2
Density matrixes for wave functions built up of two-electron orbitals. J.R. Kanyo (Hung. Acad. Sci., Budapest). *Acta Phys. Acad. Sci. Hung.* 11, 97-101 (1960) (in English); cf. *CA* 54, 10494c. — For wave function built up of antisymmetrical nonorthogonal 2-electron orbitals, the 2nd-order nonorthogonality is taken into account in the calcul. of the 1st- and 2nd-order d. matrixes. As an example, the energy expression for CH_2 is calcd. C. Olivier-Rutgers

Research Group for Theoretical Physics of the Hungarian AS
Budapest

KAPUY, E

Derivation of approximate two-electron orbitals. E. Kapuy (Hung. Acad. Sci., Budapest). *Acta Phys. Acad. Sci. Hung.* 11, 409-15 (1960) (in English); cf. CA 54, 19146i. — A method of obtaining N 2-electron orbitals in a mol with N bonds from the $2N$ 1-electron orbitals is described, and energy calcs are outlined. H H ~~late~~

Research Group for Theoretical Physics
of the Hungarian Acad. Sci. Budapest

S/058/62/000/011/015/061
A062/A101

AUTHOR: Kapuy, E.

TITLE: Derivation of "almost" orthogonal two-electron orbitals

PERIODICAL: Referativnyy zhurnal, Fizika, no. 11, 1962, 8, abstract 11V52
("Acta phys. Acad. scient. hung.", 1961, v. 13, no. 4, 461 - 468,
English)

TEXT: The previously investigated systems of related integro-differential equations that determine the best two-electron wave functions of a multi-electron problem (RZhFiz, 1962, 1V52), are somewhat modified so that the antisymmetric orthogonal two-electron orbits $\psi_I(1, 2)$, determined by these equations, may be decomposed in a full system of one-electron spin-orbits $v_{I1}(1)$. There are found equations which determine the best two-electron functions $\psi_I(1, 2)$ corresponding to a limited (non full) system of one-electron orbits, and equations which determine the best functions $v_{I1}(1)$ at a given limited number of basic one-electron functions. It has been assumed further that, even without broadening the given basis of one-electron functions, it is possible somewhat to improve

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Derivation of "almost" orthogonal...

S/058/62/000/011/015/061
A062/A101

the expression of the full wave function by two-electron functions, if partially abandoning the conditions of their orthogonality $\int \varphi_I^* (1,2) \varphi_J (1,3) d\tau_1 = 0 (I \neq J)$. Integro-differential equations are obtained which determine the indicated "almost orthogonal" functions $\varphi_I (1, 2)$. With an accuracy to the first order on the non-orthogonality, an expression is found for the full energy of the system.

S. Vetchinkin

[Abstracter's note: Complete translation]

Card 2/2

KAPUY, E.

Configuration interaction for wave functions constructed from orthogonal many-electron group orbitals. Acta phys Hung 13 no.3:345-352 '61.

1. Research Group for Theoretical Physics, Hungarian Academy of Sciences, Budapest.

KAPUY, E.

Derivation of "almost" orthogonal two-electron orbitals.
Acta phys Hung 13 no.4:461-468 '61.

1. Research Group for Theoretical Physics, Hungarian Academy
of Sciences, Budapest.

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S/081/62/148/024/002/073
B108/B186

AUTHOR: Kapuy, E.

TITLE: Configuration interaction for wave functions constructed from orthogonal many-electron group orbitals

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 24, 1962, 12, abstract 24B48 (Acta phys. Acad. scient. hung., v. 13, no. 3, 1961, 345 - 352 [Ger.])

TEXT: Previously obtained results concerning the construction of orthogonal two-electron orbitals are extended to wave functions resulting from the displacement of the one-, two-, three-, and many-electron orbitals (group orbitals). The concept of "excited states of electron groups" is defined. A theorem is given which in a more general form was demonstrated by Leydin (RZhKhim, 1962, 6B19). This theorem permits the author to formulate the fundamental principles for constructing approximate group orbitals, taking configuration interaction into consideration. Non-vanishing matrix elements of the atomic Hamiltonian are demonstrated. [Abstracter's note: Complete translation.]

Card 1/1

KAPUY, E.

"Group theory in quantum mechanics" by V. Heine. Reviewed by E. Kapuy.
Acta phys Hung 15 no.3:285-286 '63.

KAPUY, E.

On the correlation problem in the theory of atoms and molecules.
Acta phys Hung 15 no.4:341-350 '63.

1. Research Group for Theoretical Physics of the Hungarian Academy
of Sciences, Budapest.- Presented by Albert Konya.

JAVOR, Tibor; NAGY, Gyorgy; KAPUSZ, Nandor

Surgical procedure for the preparation in dogs, of an internal pancreatic fistula which can be cannulated. Kiserl. orvostud. 14 no.4:337-339 S '62.

1. Debreceni Orvostudományi Egyetem II. Belgyógyászati Klinikája és
Igasszagügyi Orvostani Intézete.
(PANCREATIC FISTULA)

MANVELYAN, M.G.; SAYADYAN, A.G.; ABRAMYAN, A.A.; MIKAYELIAN, Dzh.A.;
KAPYANTSIYAN, E.Ye.

Decomposition of alkali-calcium precipitates obtained in the
process of treating nephelite rocks by hydrochemical methods.

TSvetmet. 34 no.2:56-60 F '61.

(MIRA 14:6)

(Hydrometallurgy) (Nephelite)

KAPYRIN, G. I.

"A Study on Re-Distribution of Elements in Metal Alloys and Weld Joints by
Radiography and Radiometry", by B. Y. Bruk, A. S. Zavyalov, G. I. Kapyrin.

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 9-13 Sept 1958

KAPYRN G.I.

TABLE 1 BOOK REFERENCES 807/312

Mal'nevskiy, A. M. 3 (Physical Metallurgy; Collection of Articles, No. 3), Leningrad, Mashinostroyeniye, 1979. 390 p. 5,000 copies printed.

Mal' G. Z. Kopyrn, Candidate of Technical Sciences; Literary and Tech. Sci. S. S. Kopyrn.

REMARKS: This collection of articles is intended for scientific personnel at research and educational institutions and industrial plants and also for advanced students.

CONTENTS: The articles report the results of investigations of 1) the effect of various factors on the susceptibility of constructional and heat-resistant steels and titanium alloys to brittle failure at various temperatures under various conditions of loading (long-time, short-time, cyclic, noncyclic); 2) alloying, strengthening, and conditions of heat treatment of steels and titanium alloys; and 3) conditions and mechanisms of corrosion of steels and heat-resistant steels. The articles are accompanied by numerous Soviet and non-Soviet references. No specialities are mentioned.

Kopyrn, G. Z., and V. A. Kopyrn, Engineer. Mechanical Strength of Steel 214

Mal'nevskiy, A. M. 3, Candidate of Technical Sciences. Thermal Fatigue of Metals 290

Chernitskiy, B. M. 3, V. L. Ryabchikov, Engineer, and N. S. Ryabchikov, Candidate of Technical Sciences. Investigation of the Fatigue Strength of Titanium 263

Yashchikov, A. I., Candidate of Technical Sciences. Effect of Temperature, Hydrogen, and Nitrogen on the Properties of Alpha Alloys of Titanium 279

Rusin, N. D. Heat Treatment of Two-Phase Alloys of Titanium 298

Moroz, L. S., and Rusin, N. D. Anomalous Grain Growth of Metals in Vacuum 312

Rus, B. I., Candidate of Technical Sciences; A. S. Zay'akov, and V. A. Zay'akov, Candidates of Technical Sciences. Investigation of the Fatigue of Elements in Metallic Alloys and 326

Gal'tman, L. S., Candidate of Technical Sciences, and E. I. Kulyapina, Engineer. Structure and Properties of Porings as Influenced by Forging Conditions 349

Shul'min, S. N., Candidate of Technical Sciences; A. I. Yashchikov. Properties of Single-Phase Weldable Titanium Alloys 358

Strokan, B. V., Candidate of Technical Sciences. Modeling in Corrosion Tests Made in H₂O₂ and Water 367

Chibrikov, S. Ye., Engineer, and E. I. Lomonosov, Engineer. Use of the Electron Microscope in Investigating the Structure of Type-21-464 Austenitic Steel at Various Degrees of Susceptibility to Intergranular Corrosion 381

AVAILABLE: Library of Congress

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21
VK/ML/ML
7-20-80

KAPYRIN O.I., ~~tekhn.nauk~~.tekhn.nauk, otv.red.; POPOV, A.V., red.; KOTLYAKOVA,
O.I., tekhn.red.

[Metallurgy; collection of articles] Metallurgia; sbornik
statei. Leningrad, Gos.soluznoe izd-vo sudostroit.promyshl.
Vol.1. 1958. 177 p. (MIRA 12:9)
(Steel) (Titanium)

KAPYRIN, G.I., kand.tekhn.nauk, otv.red.; KRUGOVA, Ye.A., red.; VOLCHOK,
K.M., tekhn.red.

[Metallography; a collection of articles] Metallovedenie;
sbornik statei. Gos.sciuznos izd-vo sudostroit.promyshl.
Vol.2. 1958. 265 p. (MIRA 12:5)
(Metallography)

BRUK, B.I., kand.tekhn.nauk; ZAV'YALOV, A.S., doktor tekhn.nauk, prof.;
KAPYRIN, G.I., kand.tekhn.nauk

Studying the redistribution of elements in metal alloys and welded
joints by the method of autoradiography and radiometry. Metal-
lovedenie 3:314-325 '59. (MIRA 14:3)
(Metallography) (Autoradiography)
(Radioisotopes—Industrial application)

KRASIL'SHIKOV, Zal'man Naftal'yevich; SHMIDT, Nikolay Vladimirovich;
SHVACH, Yevgeniy Nikolayevich; PAVLENKO, Nikolay Timofeyevich;
NECHEPURENKO, Stepan Yefimovich; KAPTRIN, G.I., nauchnyy red.;
NIKITINA, R.D., red.; KRASOVA, N.V., tekhn.red.

[Thermal strengthening of nonhardenable carbon steel] Termicheskoe
uprochnenie nezakalivayushchiesia uglerodistoi stali. Leningrad,
Gos.soiuznoe izd-vo sudostroit.promyshl., 1960. 146 p.
(MIRA 13:10)

(Steel--Heat treatment)

MATVLEYEV, A.I. (Lyubertsy); KAPYRIN, O.D. (Lyubertsy)

Construction of precast reinforced concrete tanks with a capacity
of 30 000 m³. Stroi. truboprov. 10 no.2:22-26 F '65. (MIRA 18:5)

21(4)

PHASE I BOOK EXPLOITATION

SOV/2534

Kapryin, Pafnutiy Ivanovich, and Oleg Sergeyevich Sergeyev

V Dubne pod Moskvoy (At Dubna near Moscow) [Moscow] Moskovskiy rabochiy,
1958. 97 p. 25,000 copies printed.

Ed. S. Gurov; Tech. Ed.: I. Yegorova.

PURPOSE: This booklet is intended for the general reader

COVERAGE: This is a simplified booklet on nuclear and high-energy physics, the technology of acceleration, and the peaceful uses of atomic energy. It describes the research of scientists from twelve Socialist countries carried on at the Ob'yedinennyi institut yadernykh issledovaniy (United Institute of Nuclear Physics Research) in Dubna, as well as the Soviet proton-synchrocyclotron.

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At Dubna near Moscow (Cont.)
APPROVED FOR RELEASE: 06/13/2000

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CIA-RDP86-00513R000720520009-6"

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AVAILABLE: Library of Congress

Card 2/2

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KAPYRIN, S.F., inzh.

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predecessors] Engel's i ego predshestvenniki. 1961. 471 p.
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TESLYUK, Ye.V.; KAPYRIN, Yu.V.; FOKEYEV, V.M.

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TESLYUK, Ye.V.; KAPYRIN, Yu.V.; TREBIN, G.F.

Solving certain problems of heat conductivity and flow occurring
in petroleum production involving the use of thermal drive. Trudy
VNII no.37:271-289 '62. (MIRA 16:6)
(Petroleum production, Thermal)

TESLYUK, Ye.V.; KAPYRIN, Yu.V.; TREBIN, G.F.

Estimating the efficiency of thermal drive. Neft. khoz. 40 no.8:
42-49 Ag '62. (MIRA 17:2)

KAPYRIN, Yu.V.; TREBIN, G.F.

Estimating errors in the investigation of deep-well oil
samples. Nauch.-tekh. sbor. po dob. nefti no.21:62-67 '63.
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1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy
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VOLODIN, V.A.; KAPYRIN, Yu.V.; TESLYUK, Ye.V.

Studying the vertical profile of the output and flow rates of fluids
in producing and injection wells. Nauch.-tekhn. sbor. po dob. nefti
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Thermograph with contact temperature-sensitive element for
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TREBIN, G.F.; SAVINIKHINA, A.V.; KAPYRIN, Yu.V.; GROMOVA, A.A.

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1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

VASIL'YEV, V.N.; GROMOVA, A.A.; KAPYRIN, Yu.V.; TREBIN, G.F.

Studying viscosity at increased temperatures. Nauch.-tekhn. sbor.
po dob. nefti no.22:55-57 '64. (MIRA 17:9)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

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BARANIN, Ya.N.; BAIDYEV, V.N.; GREGIN, G.F.; KAPYRIN, Ya.V.

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KAPYRIN, Yu.V.; MIKITKO, I.T.

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TESLYUK, Ye.V.; ROZENBERG, M.D.; KAPYRIN, Yu.V.; TREBIN, G.F.

Nonisothermal multiphase flow and the calculation of thermodynamic effects in the development of oil fields. Trudy VNII no.42:281-293
'65. (MIRA 18:5)

KAPYUN, Yu.V.; TERLIN, G.F.

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sbor. po dob. nefte no.27:79-8. '65. (MIRA 18:9)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

ABEZGAUZ, I.M.; KAPYRIN, Yu.V.; TREBIN, G.F.

New method for determining the optical density of petroleum.
Nefteprom, delo no.10:13-14 '65.

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1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.

KAPYSH, Ye.M.

System for opening carbide barrels. Elek. i topl. tiaga 7
no.4:22-23 Ap '63. (MIRA 16:5)

1. Nachal'nik tekhnicheskogo otdela depo Ussuriysk.
(Carbides)

KAPYSHEV, A.G.; VENEVTSEV, Yu.N.; SOLOV'YEV, S.P.; GORBUNOV, L.A.;
ZHDANOV, G.S.

X-ray chambers for high-temperature studies. Zav. lab. 30 no.10:
1274-1276 '64. (MIRA 18:4)

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni
Karpova.

KAPYSHEV, A. G.

AUTHOR: Venevtsev, Yu.N., Kapyshev, A.G. and Shumov, Yu.V. 70-2-5/24

TITLE: An X-ray structural investigation of the system
 $\text{PbTiO}_3 - \text{BaSnO}_3$. (Rentgenograficheskoye issledovaniye systemy
 $\text{PbTiO}_3 - \text{BaSnO}_3$.)

PERIODICAL: "Kristallografiya" (Crystallography), 1957, Vol.2,
 No.2, pp.233-238 (U.S.S.R.)

ABSTRACT: X-ray powder photographs of the system $\text{PbTiO}_3 - \text{BaSnO}_3$ at various temperatures showed a continuous range of solid solutions. The phase diagram of $(\text{Pb,Ba})(\text{Ti,Sn})\text{O}_3$ was constructed showing only two phases, one cubic (paraelectric), the other tetragonal (ferro-electric). The diagram agrees with that traced from dielectric measurements by I.E. Myl'nikova. The Curie temperature in this system falls more sharply with increasing Sn concentration than in the $\text{Pb}(\text{Ti,Sn})\text{O}_3$ system. Both SnTiO_3 and BaSnO_3 have the perovskite structure but the former compound is ferro-electric. Examination of their solid solutions was expected to elucidate some of the factors leading to ferro-electricity in the perovskite structures. Specimens were prepared in the Institute for Silicate Chemistry (IKhS AN SSSR) from BaCO_3 , TiO_2 , SnO_2 and PbO by heating at

Card
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70-2-5/24
PbTiO₃ -

An X-ray structural investigation of the system BaSnO₃. (Cont.)

1 250 C for one hour. X-ray powder photographs were taken with Cu or Cr radiation measuring particularly the high angle lines. The accuracy in the cell sides was about ± 0.003 A.

A change from the tetragonal form (PbTiO₃) to the cubic (BaSnO₃) took place at 43 mol % of the latter with no discontinuity in the cell volume. The ratio c/a does not decrease continuously to 1 but drops sharply from 1.003. High temperature photographs from 30 mol % BaSnO₃ showed a Curie temperature of 190 ± 10 C compared with 490 C for pure PbTiO₃. Specimens with 43 mol % BaSnO₃ have a Curie temperature about 15 C. A specimen with a Curie temperature of -183 C will have a composition of between 40 and 60% BaSnO₃. A rhombohedral phase of Pb(Ti,Sn)O₃ is found. The correctness of the factors proposed earlier by Venevtsev (Dissertation, MIFI, Moscow, 1955, and Izv. Ak. Nauk, Ser Fiz., 21, 2, 1957) as influencing the Curie temperatures of compounds with t less than 1 is confirmed.

Card 2/3 Discussions with Prof. G.S. Zhdanov and the assistance of Dr. G.A. Smolenskiy and Cand. I.E. Myl'nikova are acknowledged. There are 4 figures and 19 references, 9 of which are Slavic.

●An X-ray structural investigation of the system PbTiO_3 ^{70-2-5/24}
 BaSnO_3 . (Cont.)

ASSOCIATION: Physico-Chemical Institute im. L.Ya. Karpova. (Fiziko-
Card 3/3 Khimicheskiy Institut i. L.Ta. Karpova)

SUBMITTED: November 16, 1956.

AVAILABLE: Library of Congress

KAPYSHEV, A.G.

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5/07/60/005/001/009/012
Z. 13/63/10. S. S. Solov'yev, S. P.
Boris, Ye. V. Ivanova, V. V. Solov'yev, S. A. and
Kopylov, K. G.

TITLE: Crystal Chemical Investigations of Substances with
in the Ferroelectric Type of Structure Which Has Special
Dielectric Properties

PERIODICAL: Kristallografiya, 1960, Vol. 5, No. 4,
pp 620 - 626

TEXT: In BaTiO₃ the dielectrically-active ion is the Ti but
in PbTiO₃ it is the Pb ion. The (Pb,Ba)TiO₃ system may, there-
fore, be expected to show peculiarities where these two effects
interact. The variation in structure, dielectric and piezo-
electric properties as a function of composition from one end-member to
the other. Experiments on solid solutions with 7, 9, 11, 13
and 24 wt. % PbTiO₃ showed anomalies not applicable as due to
loss of PbO. BaTiO₃ undergoes several phase transitions in a
short temperature interval. Dielectric and optical observations
show transitions at 360, 470, 520 and 640 °C. X-ray data contra-
dict all but the first of these. Polycrystalline material was
studied by X-ray methods up to 700 °C and transitions at 360,
430, 470, 520 and 640 °C were found. Below 360 °C BaTiO₃ is
monoclinic with $a \neq c$, b and $c > 90^\circ$. Above 360 °C it is
orthorhombic. The transition from orthorhombic to tetragonal
is not at 360 but at 430 °C. The X-ray method is no less
reliable than the optical and dielectric methods.
From an examination of solid solutions BaTiO₃-(Ca,Sr)(Zr,Sn)O₃,
it is concluded that, other things being equal, the Curie
temperature of perovskite-type ferroelectric is higher, the
instability of the period of the lattice and the higher is the
polarizability of the active cation.
BaTiO₃ with added Bi₂O₃-Cr₂O₃ and Bi₂O₃-Al₂O₃ has been
synthesized and specimens show properties like those found in
BaTiO₃ containing Bi₄Ti₃O₁₂.

Card 2/4

BaTiO₃ and specimens in the system PbTiO₃-BaTiO₃ have been
synthesized. The former has a rhombohedral distortion
($a = 3.963 \text{ \AA}$, $a = 89.24^\circ$) and a maximum of about 1200. In
at 200 °C the susceptibility has a maximum of about 1200. In
the solid solution up to 70% by wt. of BaTiO₃ there is also
a tetragonal modification. The Curie point of BaTiO₃ appears
to be higher than that of PbTiO₃.
General methods for calculating the internal field have been
developed for structure of any dipole configurations. These
have been applied to the orthorhombic structure of CaTiO₃.
Here, the internal electric field is zero at the Ti sites.
There are 29 references: 2 Japanese (in English), 4 English,
2 international, 1 Swiss, 1 German and 15 Soviet.

Card 3/4

ASSOCIATION: Fiziko-khimicheskiy Institut
Im. L. Ye. Karpova
(Physico-Chemical Institute - named
L. Ye. Karpov)

SUBMITTED: February 25, 1960

35597

S/048/62/026/003/006/015

B107/B102

24.7100 (1153,1160)

AUTHORS: Ivanova, V. V., Kapyshev, A. G., Venevtsev, Yu. N., and Zhdanov, G. S.

TITLE: X-ray determination of symmetry of the elementary cells of the ferroelectrics $(K_{0.5}Bi_{0.5})TiO_3$ and $(Na_{0.5}Bi_{0.5})TiO_3$ and of the high-temperature phase transitions in $(K_{0.5}Bi_{0.5})TiO_3$

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 3, 1962, 354-356

TEXT: The ferroelectrics with perovskite structure, $(K_{0.5}Bi_{0.5})TiO_3$ and $(Na_{0.5}Bi_{0.5})TiO_3$ with the Curie point at 380 and 320°C, respectively, had been described in earlier papers (Ref. 1: G. A. Smolenskiy, A. I. Agranovskaya, Fiz. tverdogo tela, 1, no. 10, 1562 (1959); Ref. 2: G. A. Smolenskiy, V. A. Isupov, A. I. Agranovskaya, N. N. Kraynik, Fiz. tverdogo tela, 2, no. 11, 2982 (1960)). The radiographic examination with an PKV-114 (RKU-114) camera shows that the samples are single-phased at room Card 1/3

S/048/62/026/003/006/015
B107/B102

X-ray determination of symmetry ...

temperature, and that K and Bi, and/or Na and Bi are statistically distributed in the sites of the elementary cell with the coordination number 12. Splitting of some lines was observed, but could not be measured accurately. CrK radiation and an PKA-143 (RKD-143) camera (produced at the FKhI imeni L. Ya. Karpov) were therefore used. The following lattice constants were determined from the splitting of the line with

$\sum h_i^2 = 8$: $(K_{0.5}Bi_{0.5})TiO_3$ is tetragonal with $a = 3.913 \pm 0.003 \text{ \AA}$, $c = 3.993 \pm 0.003 \text{ \AA}$, $V = 61.1 \pm 0.15 \text{ \AA}^3$; $(Na_{0.5}Bi_{0.5})TiO_3$ is rhombohedral with $a = 3.891 \pm 0.002 \text{ \AA}$, $\alpha = 89^\circ 36' \pm 3'$, $V = 58.7 \pm 0.1 \text{ \AA}^3$. Furthermore, the change in the lattice constants with temperature up to 500°C was determined for $(K_{0.5}Bi_{0.5})TiO_3$. At 270°C the tetragonal passes over into a

pseudocubic phase. The slightly diffuse lines make more accurate determination impossible. On the basis of previous conclusions (Ref. 4: Yu. N. Venetsev, G. S. Zhdanov, Izv. AN SSSR. Ser. fiz., 21, 2275 (1957)) the distortion can be assumed to be tetragonal. The cubic phase occurring from 410°C onward makes the radiographs clearer. The authors thank V. A. Isupov who supplied the samples. There is 1 figure.

Card 2/3

X-ray determination of symmetry ...

S/048/62/026/003/006/015
B107/B102

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova
(Physicochemical Institute imeni L. Ya. Karpov)

Card 3/3

KAPYSHEV, A.G.; VENEVTSEV, Yu.N.

X-ray diffraction study of variations in the period of elementary cells of $(\text{Ba}, \text{Pb})\text{TiO}_3$ solid solutions in the paraelectric region as dependent on the composition. Kristallografiia 8 no.2:269-270 (MIRA 17:8)
Mr-Apr '63.

1. Fiziko-khimicheskiy institut imeni Karpova.

VENEVTSSEV, Yu. N.; ZHDANOV, G. S.; ROGINSKAYA, Yu. Ye.; FEDULOV, S. A.;
IVANOVA, V. V.; CHKALOVA, V. V.; VISKOV, A. S.; KAPYSHEV, A. G.;
BONDARENKO, V. S.; LADYZHINSKIY, P. B.

Some solid solutions on the basis of the ferroelectric-
antiferromagnetic BiFeO_3 . Izv. AN SSSR. Ser. fiz. 28 no. 4:
683-690 Ap '64. (MIRA 17:5)

VENEVTSY, Ya.N.; ROGINSKAYA, Yu.Ye.; VISKOV, A.S.; IVANOVA, V.V.;
TOMASHPOL'SKIY, Yu.Ya.; SHVORNEVA, L.I.; KAPYSHEV, A.G.;
TEVEROVSKIY, A. Yu.; ZHDANOV, G.S.

New lead-containing porovskite compounds of complex composition. Dokl. AN SSSR 158 no.1286-88 S-0 '64 (MIRA 17:8)

1. Fiziko-khimicheskiy institut imeni L. Ya. Karpova. Predstavleno akademikom N.V. Belovym.

TULUPOV, V.A.; KIVILIS, D.A.; KAPYSHEV, A.G.

Physicochemical study of homogeneous hydrogenation catalysts.

Part 2. Zhur. fiz. khim. 38 no.10:2415-2419 0 '64.

(MIRA 18:2)

1. Vsesoyuznyy zaochnyy mashinostroitel'nyy institut.

TULUPOV, V.A.; KAPYSHEV, A.G.; TULUPOVA, A.I.

Physicochemical studies of catalysts for homogeneous catalytic
hydrogenation. Part 3. Zhur.fiz.khim. 38 no.11:2737-2739 N '64.
(MIRA 18:2)

1. Vsesoyuznyy zaochnyy mashinostroitel'nyy institut.

KAPYSHEV, K.

Where are hidden potentialities? Grazhd. av. 17 no. 11:17
N '60. (MIRA 13:12)
(Airplanes--Maintenance and repair)

174

KAPYSHEV, K.

Shift maintenance of special-purpose airplanes. Grazhd.av.
12 no.2:27 F '55.

(Airplanes--Maintenance and repair)

(MIRA 16:1)

VOZBUTSKAYA, Amaliya Yefremovna; ANTIPOV-KARATAYEV, I.N., akad., prof.,
red.; ASKINAZI, D.L., prof., red.; TADZHIKSKAYA, A.N.,
akad., red.; KAPYSHEVA, N.L., red.

[Soil chemistry] Khimiia pochvy. Izd.2., perer. i dop.
Moskva, Vysshaya shkola, 1964. 397 p. (MIRA 17:11)

Varuntsyan, I.S.
VARUNTSYAN, I.S., akademik, red.; KAPYSHEVA, V.S., red.; PEVZNER, V.I.,
tekhn.red.

[New preparations for cotton plant defoliation before harvesting]
Novye preparaty dlia preduborochnogo obeslistvleniia khlopchatnika.
Pod red. I.S.Varuntsiana. Moskva, Gos. izd-vo sel'khoz. lit-ry,
1957. 94 p. (MIRA 11:5)

1. Vsesoyuznaya Akademiya sel'skokhozyaystvennykh nauk imeni V.I.
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V.I.Lenina (for Varuntsyan)
(Cotton growing) (Defoliation)

KOSMACHEVSKIY, Andrey Semenovich, prof.; TSVETKOVA, V.A., red.; KAPYSHEVA,
V.S.; DEYEVA, V.M., tekhn.red.

[Injurious soil insects and measures for their control] Vrednye
pochvennyye nasekomye i mery bor'by s nimi. Moskva, Gos.izd-vo
sel'khoz.lit-ry, 1959. 82 p. (MIRA 13:1)
(Insects, Injurious and beneficial)

GERASIMOVA, Aleksandra Ivanovna, kand.sel'skokhoz.nauk; MINYAYEVA, Ol'ga
Mikhaylovna, kand.biolog.nauk; KAPYSHEVA, V.S., red.; BALLOD, A.I.,
tekhn.red.

[Diseases and pests of forage grasses] Vrediteli i bolezni kormovykh
trav. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1960. 359 p.

(Forage plants--Diseases and pests]

(MIRA 14:6)

VORONTSOV, A.I.; KAPYSHEVA, V.S., red.; MURASHOVA, V.A., tekhn. red.

[Hidden enemies of our house; insects that destroy wood] Skry-
tye vrugi nashogo doma; nasekomye razrushiteli drevesiny. Mo-
skva, Gos.izd-vo "Vysshaya shkola," 1961. 93 p. (MIRA 15:1)
(Trees--Diseases and pests) (Wood)

DOBROVOL'SKIY, Boris Vladimirovich; KAPYSHEVA, V.S., red.; YEZHOVA, L.L.,
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MARDASHEV, Sergey Rufovich; POKROVSKIY, Aleksey Alekseyevich; PAVLOVA,
Nina Aleksandrovna; KAPYSHEVA, V.S., red.; YEZHOVA, L.L.,
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[Laboratory demonstrations for lectures on biological chemistry;
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khimii; posobie dlia prepodavatelei. Moskva, Gos.izd-vo "Vysshiaia
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(Biochemistry—Study and teaching)

PEREL'MAN, Aleksandr Il'ich; KAPYSHEVA, V.S., red.; GOROKHOVA, S.S.,
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149 p. (MIRA 15:3)

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LEMAN, Vladimir Mikhaylovich. Prinimal uchastiye FANTALOV, O.S., inzh.;
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1. Laboratoriya iskusstvennogo klimata Sel'skokhozyaystvennoy
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(Plants, Effect of light on)

CHEREMISINOV, Nikifor Andrianovich, prof.; BOYEVA, Lidiya
Ivanovna, assistant; SEMIKHATOVA, Ol'ga Anatol'yevna,
assistant; KAPYSHEVA, V.S., red.; PAVLOVA, V.A., tekhn.
red.

[Practical training work in microbiology] Praktikum po mikro-
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(MICROBIOLOGY—STUDY AND TEACHING)

VOYNAR, Aleksey Iosifovich; KAPYSHEVA, V.S., red.; YEZHOVA, L.L.,
tekhn. red.

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rode. Moskva, Vysshaya shkola, 1962. 91 p. (MIRA 15:11)
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[Laboratory manual on the zoology of invertebrates] Praktikum po zoologii bezpozvonochnykh. Pod red. E.N.Frolovoi. Moskva, Vysshaya shkola, 1962. 207 p. (MIRA 15:11)
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IOFF, Nikolay Abramovich[deceased]; BELOUSOV, L.V., red.; KAPYSHEVA,
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3473. Development [in Hungary] of prefabricated medium-voltage metal-clad (sheet-steel-enclosed) switchgear. F. ROMKAY, A. KARA AND L. HULLAI. *Elekrotechnika*, 41, 98-113 (April, 1954) In Hungarian.

The history of metal-clad switchgear is reviewed and present-day designs are described. A standard scheme has been worked out with 7 basic cell units. These units permit the construction of single-busbar switchgear to cover all practical requirements. Designs are given incorporating bulk oil, small oil volume and expansion (water) circuit breakers. It is concluded that with the possible exception of large stations, metal-clad gear can be used to advantage. In the case of power stations, transformer stations connected to the national network or large industrial installations, the superiority of metal-clad gear over open-cell construction might, however, be open to argument. Problems of manufacture are discussed in detail.

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Indoor switchgear system which can be completely prefabricated.
Villamossag 9 no.8:230-235 Ag '61.

1. Fotechnologus, Villamos Eromu Tervezo es Szerelo Vallalat.